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EXAMINER	
DOROSHENK, ALEXA A	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/091,223
Filing Date: March 05, 2002
Appellant(s): LESIEUR ET AL.

MAILED
JUL 14 2004
GROUP 1700

William W. Jones
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 3, 2004.

(1) ***Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

(2) ***Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) ***Status of Claims***

The statement of the status of the claims contained in the brief is correct.

(4) ***Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) ***Summary of Invention***

The summary of invention contained in the brief is correct.

(6) ***Issues***

The appellant's statement of the issues in the brief is correct.

(7) ***Grouping of Claims***

Appellant's brief includes a statement that claims s 3-17 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) ***Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) ***Prior Art of Record***

4,865,820	DUNSTER ET AL.	09-1989

H1,849	FOURIE ET AL.	05-2000
6,223,843	O'CONNELL ET AL.	05-2001
6,368,735	LOMAX ET AL.	04-2002

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 3, 4, 8, 12, 13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunster et al. (4,865,820).

With respect to claims 3, 8 and 13, Dunster et al. discloses a method for mixing a fuel/steam or vaporized fuel with an oxidant gas or oxidant/steam gas (col. 1, lines 13-24 and col. 3, lines 35-40) suitable for use in an autothermal fuel gas reformer catalyst bed (col. 3, lines 54-57) taking place in an apparatus comprising:

a catalyst bed (32) having an inlet end (fig. 5);

a mixing station (30) adjacent to said inlet end of the catalyst bed (fig. 5), said mixing station including an inlet chamber (68), a manifold (72) interposed between said inlet chamber (68) and said catalyst bed (32) inlet end (fig. 5); and

a plurality of cylindrical transfer tubes (80) extending through said manifold (72) from said inlet chamber (68) to said inlet end of said catalyst bed (fig. 5) each of said tubes having a plurality of gas entry passages (86) in sides walls of the tubes, each gas passage having an axis which is perpendicular (see fig. 5) to an axis of the tubes, each passage spaced apart from the catalyst bed inlet end at a distance which is at least two times the diameter of said tubes (see fig. 2).

The method comprising the steps of:

providing a first gas inlet passage (66) opening into the inlet chamber (68);

providing a second gas inlet passage (70) opening into said manifold (72);

introducing a vaporized fuel/steam mixture (col. 3, lines 35-40) into said inlet chamber (68) or manifold (72);

introducing an oxidant gas into the other of said inlet chamber (68) or said manifold (72);

causing one of said fuel/steam mixture or said oxidant stream to flow axially through said transfer tubes toward the inlet of said catalyst bed and causing the other of said fuel/steam mixture or said oxidant stream to flow from said manifold (72) radially into said transfer tubes (80) through said gas entry passages (86) (col. 6, lines 9-13);

maintaining a pressure differential between the interior of the transfer tubes and the manifold which will result in the radially flowing stream entering said tubes to be entrained and deflected into the axially flowing stream (col. 5, lines 10-16) so as to achieve complete mixing of the gases in the tube (col. 6, lines 1-13).

While Dunster et al. does not define the pressure differential in terms of penetration distance of the radially flowing stream into the transfer tube (as appellant does), Dunster et al. does teach maintaining a pressure differential which provides the same result as the instant invention, that being uniform mixing (i.e., a homogeneous mixture) (col. 5, lines 10-22 and col. 6, lines 1-13). Therefore the position is taken that the pressure differential of Dunster et al. will inherently provide appellant's same axial stream penetration.

With respect to claim 4, Dunster et al. discloses wherein the pressure differential between the gas stream in said transfer tubes (400 psia) and the gas stream in said manifold (430 psia) is only a few percentage points (col. 7, lines 11-17).

With respect to claims 12 and 17, Dunster et al. discloses wherein said fuel or fuel/steam mixture passes axially through said transfer tubes and said oxidant or oxidant/steam mixture enters said transfer tubes (80) from said manifold (72) (col. 7, lines 6-17).

Claims 5-7, 9-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunster et al. (4,865,820) as applied to claims 3, 8 and 13 above, and further in view of Fourie et al. (H1,849), O'Connell et al. (6,223,843 B1) or Lomax et al. (6,368,735 B1).

Dunster et al. discloses the general reforming of hydrocarbons but does not disclose specific hydrocarbons, such as gasoline, diesel fuel and methanol.

Fourie et al. discloses wherein gasoline, diesel fuel and methanol are typical reformable fuels (col. 1, lines 23-29). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select any hydrocarbon recognized for reforming processes in the method of Fourie et al. as it is merely the selection of a specific hydrocarbon known to be effective in a reforming process.

O'Connell et al. also discloses wherein gasoline, diesel fuel and methanol are fuels which are reformable (col. 1, line 65- col. 2, line 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select any

hydrocarbon recognized for reforming processes in the method of O'Connell et al. as it is merely the selection of a specific hydrocarbon known to be effective in a reforming process.

Lomax et al. also discloses wherein gasoline, diesel fuel and methanol are typical fuels which are reformable (col. 1, lines 23-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select any hydrocarbon recognized for reforming processes in the method of Lomax et al. as it is merely the selection of a specific hydrocarbon known to be effective in a reforming process.

(11) Response to Argument

Appellant argues that the examiner, in relying upon a theory of inherency, has not provided a basis grounded in technical reasoning.

The examiner respectfully disagrees. The technical reasoning behind the assertion that the pressure differential of Dunster et al. has been provided. As stated in the rejection above, while Dunster et al. does not define the pressure differential in terms of penetration distance of the radially flowing stream into the transfer tube (as appellant does), Dunster et al. does teach maintaining a pressure differential which provides the same result as the instant invention (col. 5, lines 10-22 and col. 6, lines 1-13), that being uniform/complete mixing (i.e., a homogeneous mixture; see page 3, lines 19-26 of appellant's specification). Therefore the position is taken that the pressure differential of Dunster et al. will inherently provide appellant's same axial stream penetration.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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